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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/647,176	08/25/2003	Ivan Melnyk		1505
7590	01/19/2006		EXAMINER	
Ivan Melnyk 604 Cottonwood Ave Coquitlam, BC V3J 2S4 CANADA			CONNOLLY, PATRICK J	
			ART UNIT	PAPER NUMBER
				2877

DATE MAILED: 01/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/647,176	MELNYK, IVAN	
	<b>Examiner</b>	<b>Art Unit</b>	
	Patrick J. Connolly	2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### **Status**

1) Responsive to communication(s) filed on 25 August 2003.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### **Disposition of Claims**

4) Claim(s) 1-15 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) 11-15 is/are allowed.  
 6) Claim(s) 1-6 is/are rejected.  
 7) Claim(s) 7-10 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### **Application Papers**

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 25 August 2003 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### **Priority under 35 U.S.C. § 119**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### **Attachment(s)**

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2 and 5 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. Patent No. 6,078,706 to Nau et al (hereafter Nau).

As to claims 1 and 2, Nau discloses a fiber pressure sensor and spectrometer including:

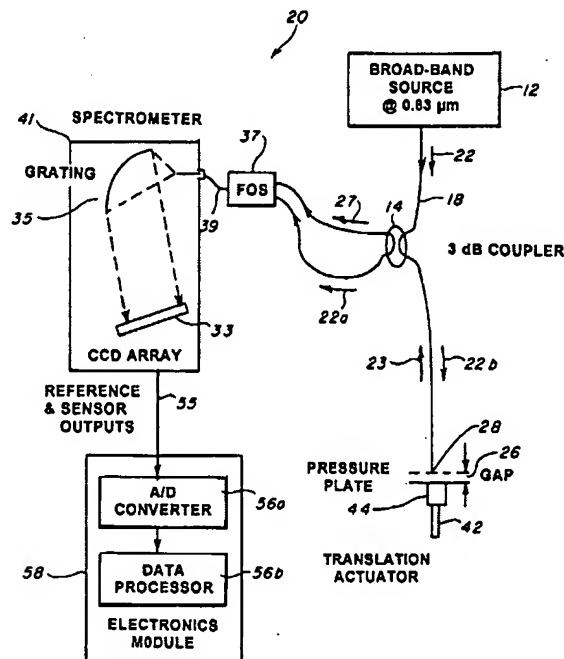


FIG. 7

a polychromatic light source (12), generating light over a wide optical spectrum;

a fiber optic measuring probe including a Fabry Perot sensing interferometer (26, 28, 42, 44), modulating said polychromatic light by passing it through a Fabry Perot cavity, having an optical path which is changed with said physical parameter;

an optical spectrometer (41) means for determining the spectrum of said modulated light in wavelength domain, and fiber optic means for coupling said modulated light from said interferometer to said optical spectrometer;

a signal processing means (58) for calculating a phase of said spectrum to determine the optical path of said Fabry Perot cavity, and subsequent means for calculating the value of said physical parameter.

As to claim 2, Nau discloses a CCD array (33).

As to claim 5, Nau discloses using memory to store calibration data (see column 4, lines 13-25).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nau, as applied above.

As to claim 3, Nau teaches a diffraction based spectrometer with a CCD array.

Nau does not teach a CMOS array.

The Examiner takes Official Notice of the fact that it is notoriously well known to use various detector array setups in spectrometer systems, as they may offer different advantages with regard to resolution and responsiveness to optical stimuli.

It would have been obvious to one of ordinary skill in the art at the time of invention to include a CMOS array in the apparatus of Nau so as to achieve the desired accuracy in resolution and detector response.

As to claim 4, Nau teaches a diffraction grating based spectroscope.

Nau does not teach a spectroscope based on a variable attenuation filter.

The Examiner takes Official Notice of the fact that it is well known in the art to use variable attenuation filters in conjunction with spectrometric apparatus so as to achieve discrete spectral measurements based on a spectral range of interest.

It would have been obvious to one of ordinary skill in the art at the time of invention to use a spectrometer based on such a filter in the apparatus of Nau so as to achieve the above advantage.

As to claim 6, Nau teaches measuring phase through curve fitting data analysis (see Figure 2).

Nau does not teach Fourier Transform analysis.

The Examiner takes Official Notice of the fact that it is notoriously well known in the art to use Fourier Transform analysis to determine spectral phase in conjunction with spectrometers so as to achieve simple and fairly direct measurements of amplitude and phase for data sets.

It would have been obvious to one of ordinary skill in the art at the time of invention to use Fourier Transform analysis to measure the phase of the data collected by the apparatus of Nau so as to achieve above advantage.

***Allowable Subject Matter***

Claims 7-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

As to claim 7, the prior art of record, taken alone or in combination, fails to disclose or render obvious a fiber optic sensing device including: a normalization probe which is attached to said fiber optic means instead of said fiber optic Fabry Perot measuring probe for purpose of measuring the normalization spectrum; and said normalization probe has the same light attenuation as said fiber optic Fabry Perot measuring probe, in combination with the rest of the limitations of claim 7.

Claims 8-10 are objected to by virtue of their dependence on claim 7.

Claims 11-15 allowed.

The following is an examiner's statement of reasons for allowance:

As to claim 11, the prior art of record, taken alone or in combination fails to disclose or render obvious a fiber optic sensing method for measuring a physical parameter including: recording a normalization spectrum of said polychromatic light source by an optical spectrometer means with a digital signal processing means outside the measuring environment; and recording

a measuring spectrum of polychromatic light source by said optical spectrometer with a digital signal processing means inside the measuring environment, in combination with the rest of the limitations claim 11.

"Several facts have been relied upon from the personal knowledge of the examiner about which the examiner took Official Notice. Applicant must seasonably challenge well known statements and statements based on personal knowledge when they are made by the Board of Patent Appeals and Interferences. *In re Selmi*, 156 F.2d 96, 70 USPQ 197 (CCPA 1946); *In re Fischer*, 125 F.2d 725, 52 USPQ 473 (CCPA 1942). See also *In re Boon*, 439 F.2d 724, 169 USPQ 231 (CCPA 1971) (a challenge to the taking of judicial notice must contain adequate information or argument to create on its face a reasonable doubt regarding the circumstances justifying the judicial notice). If applicant does not seasonably traverse the well-known statement during examination, then the object of the well known statement is taken to be admitted prior art. *In re Chevenard*, 139 F.2d 71, 60 USPQ 239 (CCPA 1943). A seasonable challenge constitutes a demand for evidence made as soon as practicable during prosecution. Thus, applicant is charged with rebutting the well-known statement in the next reply after the Office action in which the well known statement was made."

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick J. Connolly whose telephone number is 571.272.2412. The examiner can normally be reached on 9:00 am - 7:00 pm Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on 571.272.2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

pjc PJI  
01/27/06

Gregory J. Toatley, Jr.  
Supervisory Patent Examiner

17 JAN 06